COIT20272 *Mobile App Development Project*
Term 1 - 2022

Profile information current as at 27/04/2024 03:48 am

General Information

Overview
In this integrative capstone project, you will develop a significant and authentic mobile application. Specifically, you will employ the technical and professional skills that you have developed in your course of study to contribute to the development of an authentic web, hybrid or native app. You are required to use and document typical project management processes to ensure that the project is delivered on time and budget.

Details
Career Level: *Postgraduate*
Unit Level: *Level 9*
Credit Points: *12*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.25*

Pre-requisites or Co-requisites
Pre-Requisites: COIT20268 Responsive Web Design, COIT20269 Mobile Web Apps, COIT20270 App Development for Mobile Platforms, PPMP20007 Project Management Concepts
Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the Assessment Policy and Procedure (Higher Education Coursework).

Offerings For Term 1 - 2022

- Brisbane
- Melbourne
- Online
- Rockhampton
- Sydney

Attendance Requirements
All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Website
This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.

Class and Assessment Overview

Recommended Student Time Commitment

Each 12-credit Postgraduate unit at CQUniversity requires an overall time commitment of an average of 25 hours of study per week, making a total of 300 hours for the unit.

Class Timetable

Regional Campuses
Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

Metropolitan Campuses
Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **Written Assessment**
Weighting: 15%
2. **Written Assessment**
Weighting: 10%
3. **Presentation and Written Assessment**
Weighting: 25%
4. **Practical and Written Assessment**
Weighting: 40%
5. **Written Assessment**
Weighting: 10%

Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the University's Grades and Results Policy for more details of interim results and final grades.

CQUniversity Policies

All University policies are available on the CQUniversity Policy site.
You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the CQUniversity Policy site.

Previous Student Feedback

Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

Feedback from Student Feedback

Feedback
More realistic projects rather than case studies

Recommendation
Some work towards this recommendation has already been done, with the Term 1, 2021 offering allowing us to target projects that are larger and students can complete a small part of the whole. This initiative will continue to be enhanced and refined in 2022.

Feedback from Student Feedback

Feedback
Quicker feedback on assessment

Recommendation
Students have suggested that feedback could be provided more quickly on assessment. The team will look to do this through informal meetings about progress that enhances and augments the formal marking process.

Unit Learning Outcomes

On successful completion of this unit, you will be able to:

1. Apply a systems engineering process, including requirement analysis, application software design, algorithm design, coding and debugging, software testing, and software project management, informed by research into best practice
2. Demonstrate professional standards of software development including technical skills, documentation, software quality assurance, risk mitigation strategies and ethics
3. Plan and manage the software development project, particularly the scheduling of time and resources and the generation of supporting documentation
4. Work collaboratively as part of a productive team
5. Communicate effectively by using written and oral presentation and understanding the needs of various stakeholders
6. Review and critically evaluate team and individual performance, reflecting on the processes followed and identifying areas for improvement.

Australian Computer Society (ACS) recognises the Skills Framework for the Information Age (SFIA). SFIA is in use in over 100 countries and provides a widely used and consistent definition of ICT skills. SFIA is increasingly being used when developing job descriptions and role profiles.
ACS members can use the tool MySFIA to build a skills profile at https://www.acs.org.au/professionalrecognition/mysfia-b2c.html
This unit contributes to the following workplace skills as defined by SFIA. The SFIA code is included:

- Software Development Process Improvement (SPIM)
- Project Management (PRMG)
- Systems Design (DESN)
- System Integration (SINT)
- Program ming/Software Development (PROG)
- Data Analysis (DTAN)
- Database/Repository Design (DBDS)
- Systems Development Management (DLMG)
- Testing (TEST), Network Support (NTAS)
- Release and Deployment (RELM)
- Applications Support (ASUP)

Alignment of Learning Outcomes, Assessment and Graduate Attributes

— N/A Level | • Introductory Level | • Intermediate Level | • Graduate Level | ◦ Professional Level | ◦ Advanced Level

Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes					
	1	2	3	4	5	6
1 - Written Assessment - 15%	•		•			
2 - Written Assessment - 10%			•	•		
3 - Presentation and Written Assessment - 25%		•			•	
4 - Practical and Written Assessment - 40%		•			•	
5 - Written Assessment - 10%				•		•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
1 - Knowledge	◦	◦			◦	
2 - Communication	◦		◦	◦	◦	◦
3 - Cognitive, technical and creative skills	◦	◦			◦	
4 - Research	◦					◦
5 - Self-management	◦	◦	◦	◦		
6 - Ethical and Professional Responsibility				◦		◦
7 - Leadership				◦		◦
8 - Aboriginal and Torres Strait Islander Cultures						

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes							
	1	2	3	4	5	6	7	8
1 - Written Assessment - 15%	◦	◦	◦	◦	◦			
2 - Written Assessment - 10%	◦	◦			◦		◦	

Assessment Tasks	Graduate Attributes							
	1	2	3	4	5	6	7	8
3 - Presentation and Written Assessment - 25%	○	○	○	○	○	○	○	
4 - Practical and Written Assessment - 40%	○	○	○	○	○	○	○	
5 - Written Assessment - 10%	○	○	○			○		

Textbooks and Resources

Textbooks

There are no required textbooks.

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Android studio (latest version)
- Zoom.us
- Access to MySQL Database Server or SQLite database (Mandatory)

Referencing Style

All submissions for this unit must use the referencing style: Harvard (author-date)
For further information, see the Assessment Tasks.

Teaching Contacts

Salahuddin Azad Unit Coordinator
s.azad@cqu.edu.au

Schedule

Week 1 - 07 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Software Engineering	Chapter 1 • Section 1.1 What is Software Engineering? • Section 1.2 Software Engineering Life-cycle • Section 1.4 The Object Model	• Read and discuss the recommended sections of Chapter 1 of the reference textbook • Form project group, identify and discuss project topic

Week 2 - 14 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic

Object Oriented Software Engineering	Chapter 2 • Section 2.1 Software Development Methods • Section 2.2 Requirement Engineering • Section 2.3 Software Architecture	• Read and discuss the recommended sections of Chapter 2 of the reference textbook • Finalize project topic and scope • Work on project proposal

Week 3 - 21 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Use Case Analysis and Modeling	Chapter 2 Section 2.4 Use Case Modeling	• Read and discuss the recommended sections of Chapter 2 of the reference textbook • Finalize project proposal • Submit project proposal **Project Proposal and Project Plan** Due: Week 3 Friday (25 Mar 2022) 11:45 pm AEST

Week 4 - 28 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Use Case Analysis and Modeling	Continue Chapter 2 Section 2.4 Use Case Modeling	Read and discuss the recommended section of Chapter 2 of the reference textbook.

Week 5 - 04 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic
Use Case Analysis and Modeling	Chapter 2 • Focus on design and class diagrams • Focus on software testing (2.6 Test-driven implementation)	• Read and discuss the recommended sections of Chapter 2 the reference textbook • Submit Assessment 2A (Periodic Project Progress Report) Due: Week 5 Friday 11:45 pm AEST

Vacation Week - 11 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic
Enjoy the break.		

Week 6 - 18 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic
Modeling and System Specification	Chapter 3 Section 3.1 What is a system? Section 3.2 Notation for System Specification	Read and discuss the recommended sections of Chapter 3 of the reference textbook.

Week 7 - 25 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic
		1. In-class presentation and online submission of Project Requirement Specification and Design Documents 2. Submit Assessment 2B (Periodic Project Progress Report) Due: Week 7 Friday 11:45 pm AEST **In-class Presentation of Requirement Specification and Design Documents** Due: Week 7 Monday (25 Apr 2022) 11:45 pm AEST

Week 8 - 02 May 2022

Module/Topic	Chapter	Events and Submissions/Topic

Future Trends	Chapter 9 Section 9.4 Software-as-a-Service (SaaS) Section 9.5 End user software development	Read and discuss the recommended sections of Chapter 9 of the reference textbook.

Week 9 - 09 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
		Submit Assessment 2C (Periodic Project Progress Report) Due: Week 9 Friday 11:45 pm AEST

Week 10 - 16 May 2022

Module/Topic	Chapter	Events and Submissions/Topic

Week 11 - 23 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
		• Submit the final project (program codes, database schema, application execution file, and project documents) • Submit Assessment 2D (Periodic Project Progress Report) Due: Week 11 Friday 11:45 pm AEST **Submission of Final Project** Due: Week 11 Monday (23 May 2022) 11:45 pm AEST

Week 12 - 30 May 2022

Module/Topic	Chapter	Events and Submissions/Topic

Review/Exam Week - 06 Jun 2022

Module/Topic	Chapter	Events and Submissions/Topic
		Public presentation and demonstration of final project products or outcomes. **Public presentation and demonstration of final project products or outcomes** Due: Review/Exam Week Monday (6 June 2022) 8:00 am AEST

Exam Week - 13 Jun 2022

Module/Topic	Chapter	Events and Submissions/Topic
This unit does not have any examination.		

Term Specific Information

This unit has no formal textbook, but students should use resources from previous units. The content of most of the workshops are based on materials from the following reference textbook.

Software Engineering (2012)
Author: I. Marsic
Rutgers University, New Brunswick, New Jersey, USA

The book is available on https://www.ece.rutgers.edu/~marsic/books/SE/

Assessment Tasks

1 Project Proposal and Project Plan

Assessment Type
Written Assessment

Task Description
This is a group assessment. In this assessment, you are required to include the following 5 components or sections:
1. Project charter
2. Project plan
3. Risk management plan
4. User requirements
5. Quality assurance plan

The detail specification of this assessment will be provided on the Moodle unit website.

Assessment Due Date
Week 3 Friday (25 Mar 2022) 11:45 pm AEST
The assessment must be submitted to Moodle by the due date and time.

Return Date to Students
Week 5 Friday (8 Apr 2022)
The feedback will be returned within two weeks of the submission due date.

Weighting
15%

Assessment Criteria
The assessment criteria will be provided on the Moodle unit website.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Your submission (a Microsoft Word document) must include all 5 components or sections outlined in the assessment specification. All group members must submit the same copy of the assignment. The report must clearly indicate the details of each member of the group (Student ID and Full name).

Learning Outcomes Assessed

- Apply a systems engineering process, including requirement analysis, application software design, algorithm design, coding and debugging, software testing, and software project management, informed by research into best practice
- Plan and manage the software development project, particularly the scheduling of time and resources and the generation of supporting documentation

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management

2 Periodic Project Progress Reports

Assessment Type
Written Assessment

Task Description
This is a group assessment, however, individuals may receive different scores based on their contributions. You are required to submit four Periodic Project Progress Reports (2A, 2B, 2C, and 2D). Each progress report weighs 2.5 marks (totaling 10 marks for all project progress reports). All four reports must be presented using the standard template file provided on the Moodle unit website.

The detail specification of this assessment will be provided on the Moodle unit website. The submission due dates for all 4 progress reports are as below:

Project Progress Report 1 (Assessment 2A)	Friday of Week 5 (11:45 PM)
Project Progress Report 2 (Assessment 2B)	Friday of Week 7 (11:45 PM)
Project Progress Report 3 (Assessment 2C)	Friday of Week 9 (11:45 PM)
Project Progress Report 4 (Assessment 2D)	Friday of Week 11 (11:45 PM)

Assessment Due Date

As per schedule

Return Date to Students

The feedback for each item will be returned within two weeks of the corresponding submission due date.

Weighting
10%

Assessment Criteria
The assessment criteria will be provided on the Moodle unit website.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
All group members must submit the same copy of the assignment. The report must clearly indicate the details of each member of the group (Student ID and Full name)

Learning Outcomes Assessed

- Plan and manage the software development project, particularly the scheduling of time and resources and the generation of supporting documentation
- Work collaboratively as part of a productive team

Graduate Attributes

- Knowledge
- Communication
- Self-management
- Leadership

3 In-class Presentation of Requirement Specification and Design Documents

Assessment Type
Presentation and Written Assessment

Task Description
This is a group assessment. All members of a team will give an in-class presentation (for 15-20 minutes). The presentation slides should be prepared using Microsoft PowerPoint or similar presentation software. Each member of a team MUST present their work in the presentation. In most cases, all team members will receive the same mark. However, if performance varies significantly across team members, individual marks can be awarded.

This assessment consists of two components:

1. In-class presentation (5% mark)
2. Project specification and design documents (20% mark)

This presentation must cover the requirement specification and design documents.

1. Requirement specification section should include: (a) A list of functional requirements, (b) a list of non-functional requirements, (c) use-case diagrams (using UML notations), (d) a textual description of the use-case diagrams, and (e) mapping of requirements to use-cases.
2. The design section should include: (a) a software architecture clearly depicting all components, (b) a class diagram containing all classes (using UML notations), (c) behavioural modelling, (d) data dictionary, (e) entity

relationship diagram (ERD), and (f) wireframes of all user interfaces.

Each member of the group must submit the Microsoft Word document of the above items (1) and (2) as the detailed requirement specification and design document.

Assessment Due Date
Week 7 Monday (25 Apr 2022) 11:45 pm AEST
The presentation will be held during Week 7. The local Project Mentor (or the Lecturer) will schedule the day and time of the presentation. The Unit Coordinator will make separate provisions for the distance students.

Return Date to Students
Week 9 Monday (9 May 2022)
The feedback will be returned within two weeks of the submission due date.

Weighting
25%

Assessment Criteria
The assessment criteria will be provided on the Moodle unit website.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
You must submit the presentation file as well as the Microsoft Word document to Moodle. All group members must submit the same copy of the assignment.

Learning Outcomes Assessed

- Demonstrate professional standards of software development including technical skills, documentation, software quality assurance, risk mitigation strategies and ethics
- Communicate effectively by using written and oral presentation and understanding the needs of various stakeholders

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management
- Ethical and Professional Responsibility
- Leadership

4 Submission of Final Project

Assessment Type
Practical and Written Assessment

Task Description
This is a group assessment, however, individuals may receive different scores based on their contributions.

For this assessment, each group must submit the following items in a single ZIP file:

1. Project Report (a Microsoft Word file – no word limit will apply)
2. Program code of a fully running application. The submission should also contain an Android .apk file.
3. Database schema (a .sql dump file, if any external database such as MySQL is used). This schema file must be submitted as a plain text document saved in any standard text editor such as Notepad, Notepad++, TextEdit. Please do not submit this schema in a Microsoft Word document.

The Project Report should include (but is not limited to) the following sections:

1. Cover page
2. Table of content
3. Project information
   a. Introduction
   b. Aims/objectives/scopes

4. Design documents
   a. User requirements
   b. Context diagram
   c. Use cases
   d. Class diagram
   e. Behavioural or UML activity diagram
   f. User interface wireframes
   g. Database design (schema)
5. Test plans and test results (in tabular forms)
   a. Test plan (indicating test scenarios including validations)
   b. Test results (showing all anticipated results and actual results)
6. User manual (detailing how to operate the application)
7. References (if any)

Assessment Due Date
Week 11 Monday (23 May 2022) 11:45 pm AEST
The assessment must be submitted to Moodle by the due date and time.

Return Date to Students

The feeback will be returned on the day of certification of grades.

Weighting
40%

Assessment Criteria
The assessment criteria will be provided on the Moodle unit website.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
All submission items must be zipped in a single ZIP file. All group members must submit the same copy of the assignment.

Learning Outcomes Assessed

- Demonstrate professional standards of software development including technical skills, documentation, software quality assurance, risk mitigation strategies and ethics
- Communicate effectively by using written and oral presentation and understanding the needs of various stakeholders

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management
- Ethical and Professional Responsibility
- Leadership

5 Public presentation and demonstration of final project products or outcomes

Assessment Type
Written Assessment

Task Description
This presentation is a group work. Each group is required to present their final project products or outcomes in a public presentation. Each member of the group MUST take part in the presentation. In general, all team members will receive the same mark in this assessment. However, if performance varies significantly across team members, individual marks can be awarded.

The presentation will cover:

1. Demonstration of a fully running Android App
2. Presentation of the final project report

Each group will have **15-20 minutes** to present the above items to the plenary. You will have to make yourself available for the whole day on the day of presentation.

With (1) above, it is advised that each group must install their app on their Android devices prior to the delivery of the presentation. The app must be demonstrated during the presentation.

With (2) above, each group must also present their final project report covering all aspects of the project such as the project charter, plan, functional and non-functional requirement specifications, design documents - model diagrams, user interfaces, reports, lessons learnt.

Assessment Due Date
Review/Exam Week Monday (6 June 2022) 8:00 am AEST
The assignment must be submitted to Moodle by the above time and date. This presentation will be held on Monday in Review/Exam Week. The local Project Mentor or Unit Coordinator will schedule the time of presentation.

Return Date to Students

The feeback will be returned on the day of certification of grades.

Weighting
10%

Assessment Criteria
The assessment criteria will be provided on the Moodle unit website.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
The submisison should contain the presentation file and the fully running Andoid App. All group members must submit the same copy of the assignment.

Learning Outcomes Assessed

- Work collaboratively as part of a productive team
- Review and critically evaluate team and individual performance, reflecting on the processes followed and identifying areas for improvement.

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Ethical and Professional Responsibility

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the **Student Academic Integrity Policy and Procedure**. This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?
A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?
A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?
For academic advice and guidance, the Academic Learning Centre (ALC) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?

Be Honest
If your assessment task is done by someone else, it would be dishonest of you to claim it as your own

Seek Help
If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)

Produce Original Work
Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem